

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D. C. 20554

In the Matter of)	
)	
Unlicensed Operation in the Band 3650-3700 MHz)	ET Docket No. 04-151
)	
Rules for Wireless Broadband Services in the)	WT Docket No. 05-96
3650-3700 MHz Band)	
)	
Additional Spectrum for Unlicensed Devices)	ET Docket No. 02-380
Below 900 MHz and in the 3 GHz Band)	
)	
Amendment of the Commission's Rules With)	ET Docket No. 98-237
Regard to the 3650-3700 MHz Government)	
Transfer Band)	

**REPLY OF WiMAX FORUM TO
OPPOSITION TO PETITION FOR RECONSIDERATION**

I. Executive Summary

The WiMAX Forum™ is the world's leading organization promoting global standardization for, and adoption of, metro-scale wireless broadband networks. As such, the organization shares the FCC's appreciation and acknowledgement that wireless broadband networks are an effective and rapid means to provide high data rate connectivity to communities and organizations across the U.S.

The Forum strongly supports the Commission's objectives in the 3650 MHz Band Order¹ including the rapid deployment of low-cost broadband access in rural areas through various technologies including WiMAX. The WiMAX Forum also supports the

¹ *In the Matter of Unlicensed Operation in the Band 3650 - 3700 MHz*, Report and order and Memorandum opinion and order, ET Docket No. 04-151, FCC 05-56 (March 10, 2005) ("*Report and Order*").

Commission's recommendations as they apply to Rural Services Areas (RSAs) and other "less congested" areas to license on a non-exclusive but registered basis. As the Forum has explained, there is no need to specify a contention-based protocol in these less congested areas. Not only will such a protocol will be difficult to implement and be spectrally inefficient when applied across multiple, non-interoperable technologies, but it will also delay deployment to the areas that need broadband connectivity most.

The WiMAX Forum requests that the FCC give due consideration to its Petition for Reconsideration. In its Petition, the WiMAX Forum requested that the FCC reconsider its decision to require users to implement a contention-based protocol in the 3650 MHz band. In Less Congested Areas in particular, the FCC should remove the contention-based protocol requirement so that the band may be used immediately for wireless broadband to those areas. And, in More Congested Areas, the FCC should explore alternate means to requiring licensees to implement a contention protocol.

The Forum also requested that the power limit for mobile devices be increased to 5 watt/25 MHz EIRP to allow for reliable mobile communications over several kilometers. In addition, point-to-point (PtP) applications should be allowed to employ antennas with greater than 6 dBi gain without needing to reduce their peak transmit power. Finally, the WiMAX Forum asked the FCC to apply the Part 101 coordination rules to the 3650 MHz band.

The WiMAX Forum reemphasizes that its position is entirely technology neutral, and that it does not promote or reward any standard or proprietary approach over another, including WiMAX Forum Certified™ solutions.² At the same time, however, the Forum seeks to leverage the expertise, and opinions of its member companies, whose supplier members constitute over 80% of all last mile wireless broadband equipment installed today and whose operators represent wireless broadband market leaders.³ We believe that the views of our members are relevant for consideration since the 3650 MHz Band Order made it clear that the Commission is looking for the broadband wireless industry to collaborate on a solution.

² For this reason, the WiMAX Forum opposes the request of BRN Phoenix that the Commission designate one standard as the 3650 MHz contention-based protocol.

³ A full list of current WiMAX Forum members is available at www.wimaxforum.org.

II. The “Contention-Based Protocol” Requirement Should Be Reconsidered.

In its Petition, the WiMAX Forum asked the Commission to remove the contention-based protocol requirement from deployments in Less Congested Areas and requested that the Commission continue to study use of a contention-based protocol in More Congested Areas.⁴ The Forum did not make recommendations as to how to handle the more congested urban and high-density suburban areas, but welcomed future interaction with the FCC to develop expeditiously recommendations for these areas.

The WiMAX Forum recognized that broadband availability largely exists in More Congested Areas (albeit with some gaps), with most consumers having available one or two wireline (DSL or cable) broadband service provider choices. As a result, any new entrant to these markets must be able to provide service levels as good as or somehow differentiated from the existing wireline offerings. As the WiMAX Forum and many other parties explained, any new operators in these areas must be able to offer acceptable quality of service (QoS) to be competitive.⁵ We do not believe that service supported via a contention protocol can offer the required QoS.

In Less Congested Areas, the Forum believes the FCC’s approach can immediately go forth without contention protocols under the assumption that no more than 2-3 operators would find it commercially attractive to deploy a network in the same Less Congested Area. Where broadband availability is comparatively limited, a non-exclusive license strategy keeps barriers to entry for WISPs low, and the likelihood of unmanageable interference is low in these areas because the pool of available customers is too small to support many broadband service providers. Notwithstanding, should any

⁴ The WiMAX Forum notes that the Opposition of Champaign Urbana Community Wireless Network at 8 questions if the opposition to the contention protocol requirement is still valid with the formation of the IEEE 802.16h task group. The WiMAX Forum wishes to point out that the scope of this task group is to enable coexistence among license-exempt systems based on IEEE Standard 802.16 and to facilitate the coexistence of such systems with primary users. We remained convinced that the contention protocol requirement should be eliminated.

⁵ *See, e.g.*, Petition for Reconsideration of Motorola, Inc.; Petition for Reconsideration of Intel Corp., Redline Communications Inc., and Alvarion Inc.; Petition for Reconsideration of The Wireless Communications Association International.

conflicts arise between non-exclusive licensees, they can be resolved between operators on an equal basis. The Forum submits that at least several non-exclusive licensees with access to the entire 50 MHz of spectrum would be able to successfully share the spectrum now without the delay and cost involved with implementing an acceptable contention-based protocol.⁶

In addition, the WiMAX Forum believes that the conditions of shared use licensing should be clarified prior to permitting deployment in the band.⁷ Specifically, if the FCC decides to uphold the contention-based protocol requirement on reconsideration, it needs to clarify that the contention requirement does not compel use of one protocol. As echoed in the Wireless Communications Association International (WCAI) oppositions, without such clarity, deployment in the 3650 MHz band would be unnecessarily delayed and could prevent vendors from deploying equipment as soon as possible.⁸

In sum, the WiMAX Forum believes that its suggested approach strives to make effective and immediate use of the 3650-3700 MHz band in Less Congested Areas and acknowledges the realities and unique needs of More Congested Areas in an effort to best serve public interests. Left to market forces driven by technology neutral, economic incentives, the industry will innovate to improve interference mitigation techniques in shared spectrum.

⁶ Requiring a contention-based protocol would delay operator deployments and incur additional R&D investments by manufacturers that will need to define, develop, test, and then implement such protocols.

Creation of a U.S.-specific protocol could diminish the ability for U.S. service providers to take advantage of “off the shelf” equipment already available and capable of operating in this band. The 3400-3600 MHz band is currently used in many other countries broadband wireless access.

⁷ See Petition for Reconsideration of WiMAX Forum at 10.

⁸ See Consolidated Opposition and Comments To Petitions for Reconsideration of The Wireless Communications Association International, Aug. 11, 2005, at 11-12.

III. The BRN Phoenix and SIA Petitions Should Be Denied.

The WiMAX Forum agrees with the many parties who filed oppositions to the Petitions for Reconsideration of BRN Phoenix and the Satellite Industry Association (SIA).⁹

Specifically, the WiMAX forum strongly supports technology neutrality and we cannot endorse any party such as BRN Phoenix that requests that the FCC designate one specific approach as the contention-based protocol. Moreover, as noted above, the WiMAX forum has reservations concerning the applicability of the contention-based protocol requirement at 3650 MHz.

With regard to the SIA Petition, the WiMAX Forum believes that the Commission fully considered and properly decided to reject the arguments of the SIA to impose overly restrictive out-of-band emissions limits and reduce power levels. With regards to the out-of-band emissions levels the Commission correctly noted that this limit is very conservative, and the decision by the Commission has been successfully applied to many other services.¹⁰ The limits set forth in the 3650 MHz Band Order strike the proper balance of allowing for rapid rollout of wireless broadband solutions in the band while protecting adjacent FSS licensees. The WiMAX Forum also supports the WCAI Opposition that ultimately satellite receiver front ends that do not provide sufficient adjacent channel rejection should not govern regulatory decisions for operation in nearby bands¹¹, doing so would unjustly restrict transmit power levels for systems operating in 3650 MHz and severely impact the use of the band to deliver broadband services to the public.

⁹ See, e.g., Letter Filing of Fox Networks and HBO, Aug. 11, 2005; Opposition of Motorola, Inc. to Petitions for Reconsideration, Aug. 11, 2005; Comments of Verizon on Petition for Reconsideration, Aug. 11, 2005; Consolidated Opposition and Comments To Petitions for Reconsideration of The Wireless Communications Association International, Aug. 11, 2005.

¹⁰ See, *Report and Order*, 20 FCC Rcd at 6528.

¹¹ See, Consolidated Opposition and Comments To Petitions for Reconsideration of The Wireless Communications Association International, at 19.

IV. Conclusion

The WiMAX Forum again commends the Commission for taking bold action in this proceeding to bring the benefits of wireless broadband connectivity to all Americans. We look forward to working with agency staff as it considers the issues raised in the Petitions for Reconsideration.

Respectfully submitted
WiMAX Forum

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The WiMAX Forum is an industry-led, non-profit corporation formed to promote and certify compatibility and interoperability of broadband wireless products. Our membership, comprised of over 300 broadband wireless access service providers, manufacturers, component suppliers and ecosystem players, supports the industry-wide acceptance of the IEEE 802.16* and ETSI HiperMAN* standards for Metropolitan Area Networks (MANs). For more information, please visit www.wimaxforum.org.

Certificate of Service

On August 22, 2005, the foregoing Reply of WiMAX Forum was sent via First Class mail to the following individuals.

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